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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/932,703	08/17/2001	Charles Calvin Byers	39-1	5762

7590 05/17/2005

Lucent Technologies Inc.
Docket Administrator (Rm. 3C-512)
600 Mountain Avenue
P. O. Box 636
Murray Hill, NJ 07974-0636

EXAMINER	
PHAN, HANH	

ART UNIT	PAPER NUMBER
2633	

DATE MAILED: 05/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/932,703	BYERS ET AL.	
	Examiner	Art Unit	
	Hanh Phan	2633	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 August 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,5-12 and 15-43* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,5-12 and 15-43* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is responsive to the Amendment filed on 04/13/2005.

Double Patenting

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 1-3, 5-8, 25-27, 36, 37 and 42 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-18 of copending Application No. 09/932,706 (Byers et al). Although the conflicting claims are not identical, they are not patentably distinct from each other because the limitations recited in claims 1-3, 5-8, 25-27, 36, 37 and 42 of the instant application are encompassed by claims 1-18 of copending Application No. 09/932,706 (Byers et al).

Regarding claims 1 and 36, Byers et al (copending of Application No. 09/932,706) discloses a system to provide internal communication in a stored program

controlled system in a system comprising a plurality of processing units, the system comprising:

a free space beam line configured to contain optically encoded signals transmitted among the plurality of processing units;

an elongated conduit enclosing the free space beam line ;

means in one of the plurality of processing units for injecting optically encoded signals into the beam line; and

means connected to each of the plurality of units for receiving optically encoded signals from the beam line, the receiving means comprising receivers disposed within the conduit in a helical pattern extending outward from an axis of the elongated conduit and the receivers oriented to receive respective portions of the free space beam line parallel to the axis (see claims 1-11 of Byers et al).

Regarding claim 2, Byers discloses the plurality of processing units are configured to process signals and each of the processing units configured to perform one or more functions in response to the signals (see claims 1-11 of Byers).

Regarding claims 3 and 37, Byers discloses means for translating optically encoded signals into electrical signals connected between each of said means for receiving optically encoded signals and each of said plurality of processing units (see claims 1-11 of Byers et al).

Regarding claim 5, Byers discloses a first terminal unit at a first end of the free space beam line configured to transmit the optically encoded signals (see claims 1-11 of Byers et al).

Regarding claim 6, Byers discloses the first terminal unit is further configured to receive optically encoded signals (see claims 1-11 of Byers et al).

Regarding claim 7, Byers discloses a second terminal unit configured to receive optically encoded signals (see claims 1-11 of Byers et al).

Regarding claim 8, Byers discloses the second terminal unit is further configured to transmit optically encoded signals in the free space beam line (see claims 1-11 of Byers et al).

Regarding claim 25, Byers discloses wherein said means for sending and said means for receiving comprises a probe (see claims 1-11 of Byers et al).

Regarding claim 26, Byers discloses wherein each of the probes includes an optical/electrical interface (see claims 1-11 of Byers et al).

Regarding claim 27, Byers discloses wherein each of said units includes a transmit and receive units (see claims 1-11 of Byers et al).

Regarding claim 42, Byers discloses the elongated conduit encloses the entirety of the free space beam line (see claims 1-11 of Byers et al).

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the

subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-3, 5-12, 15-32 and 34-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heflinger (US Patent No. 5,726,786) in view of Staiger (US Patent No. 6,628,441) and further in view of Kim (US Patent No. 6,661,940).

Regarding claims 1 and 36, referring to Figure 3, Heflinger discloses a system to provide internal communication in a system comprising a plurality of processing units (i.e., modular subsystems 1-3, Fig. 3), the system comprising:

a free space beam line configured to contain optically encoded signals transmitted among the plurality of processing units (i.e., modular subsystems 1-3, Fig. 3, col. 14, lines 12-30, col. 19, lines 32-67 and col. 20, lines 1-63);

an elongated conduit enclosing the free space beam line (i.e., integrating chamber, Fig. 3, lines 32-39);

means (i.e., transmitter 1 of modular subsystem 1, Figs. 1 and 3) in one of the plurality of processing units for injecting optically encoded signals into the beam line; and

means (i.e., receivers 1-3 of modular subsystems 1-3, Figs. 1 and 3) connected to each of the plurality of units for receiving optically encoded signals from the beam line, the receiving means comprising receivers (i.e., receivers 1-3, Fig. 1) disposed within the conduit (i.e., integrating chamber, Fig. 3) in a helical pattern extending

outward from an axis of the elongated conduit (see from col. 11, line 32 through col. 14, line 44 and col. 9, lines 1-15).

Heflinger differs from claims 1 and 36 in that he does not specifically teach the internal communication in a stored program controlled system and the receivers oriented to receive respective portions of the free space beam line parallel to the axis. However, Staiger in US Patent No. 6,628,441 teaches the internal communication in a stored program controlled system (Fig. 1, col. 4, lines 18-67 and col. 5, lines 1-4 and col. 1, lines 5-30) and Kim in US Patent No. 6,661,940 teaches the receivers oriented to receive respective portions of the free space beam line parallel to the axis (Fig. 4, col. 11, lines 10-21). Therefore, it would have been obvious to one having skill in the art at the time the invention was made to incorporate the internal communication in a stored program controlled system and the receivers oriented to receive respective portions of the free space beam line parallel to the axis as taught by Staiger and Kim in the system of Heflinger. One of ordinary skill in the art would have been motivated to do this since Staiger suggests in column 4, lines 18-67 and col. 5, lines 1-4 and col. 1, lines 5-30 and Kim suggests in column 11, limes 10-21 that using such teach the internal communication in a stored program controlled system and the receivers oriented to receive respective portions of the free space beam line parallel to the axis have advantage of allowing processing the signals and increasing the reliability in relation to faults and also permits compact construction of the individual electronic components.

Regarding claim 2, the combination of Heflinger, Staiger and Kim teaches the plurality of processing units are configured to process signals and each of the

processing units configured to perform one or more functions in response to the signals (Fig. 3 of Heflinger, Fig. 1 of Staiger and Fig. 4 of Kim).

Regarding claims 3 and 37, the combination of Heflinger, Staiger and Kim teaches means for translating optically encoded signals into electrical signals connected between each of said means for receiving optically encoded signals and each of said plurality of processing units (Fig. 3 of Heflinger and Fig. 1 of Staiger).

Regarding claim 5, the combination of Heflinger, Staiger and Kim teaches a first terminal unit (subsystem 1 of Heflinger, Figs. 1 and 3) at a first end of the free space beam line configured to transmit the optically encoded signals (Figs. 1 and 3 of Heflinger, Fig. 1 of Staiger and Fig. 4 of Kim).

Regarding claim 6, the combination of Heflinger, Staiger and Kim teaches the first terminal unit is further configured to receive optically encoded signals (Figs. 1 and 3 of Heflinger and Fig. 1 of Staiger).

Regarding claim 7, the combination of Heflinger , Staiger and Kim teaches a second terminal unit configured to receive optically encoded signals (Figs. 1 and 3 of Heflinger and Fig. 1 of Staiger).

Regarding claim 8, the combination of Heflinger, Staiger and Kim teaches the second terminal unit is further configured to transmit optically encoded signals in the free space beam line (Figs. 1 and 3 of Heflinger and Fig. 1 of Staiger).

Regarding claim 9, the combination of Heflinger, Staiger and Kim teaches the second terminal unit is configured to send signals to the first terminal unit via a

means for transmitting signals separate from the free space beam line (Figs. 1 and 3 of Heflinger, Fig. 1 of Staiger and Fig. 4 of Kim).

Regarding claims 10, 19 and 20, the combination of Heflinger , Staiger and Kim teaches wherein said means for transmitting comprises an optical fiber (col. 14 of Heflinger, lines 31-44).

Regarding claim 11, the combination of Heflinger, Staiger and Kim teaches wherein said means for transmitting comprises a second free space beam line (Figs. 1 and 3 of Heflinger and Fig. 1 of Staiger).

Regarding claims 12, 34 and 35, the combination of Heflinger, Staiger and Kim teaches a router connected between said means for transmitting signals and the first terminal configured to route optical signals received at the second terminal to predetermined means for receiving optically encoded signals (Fig. 3 of Heflinger, Fig. 1, col. 4 of Staiger, lines 18-67 and col. 5, lines 1-4 and col. 1, lines 5-30 and Fig. 4 of Kim).

Regarding claim 15, the combination of Heflinger, Staiger and Kim teaches the conduit includes an interior surface, wherein the interior surface is reflective (Fig. 3 of Heflinger and Fig. 1 of Staiger).

Regarding claims 16 and 18, the combination of Heflinger, Staiger and Kim teaches wherein the conduit includes an interior surface, wherein the interior surface is light absorptive (col. 20, lines 7-21).

Regarding claim 17, the combination of Heflinger, Staiger and Kim teaches wherein the conduit includes a reflective end cap (Fig. 3 of Heflinger and Fig. 1 of Staiger).

Regarding claims 21, 22, 28-30 and 38-41, the combination of Heflinger, Staiger and Kim teaches wherein each of the plurality of processing units comprises a frame, the frame having a plurality of cards for performing functions and wherein the frame receives optically encoded signals from said means for receiving optically encoded signals, translates the optically encoded signals into electronically encoded signals, and performs functions related to the plurality of cards (Fig. 3 of Heflinger, Fig. 1, col. 4 of Staiger, lines 18-67 and col. 5, lines 1-4 and col. 1, lines 5-30 and Fig. 4 of Kim).

Regarding claim 23, the combination of Heflinger, Staiger and Kim teaches wherein the free space beam line runs above the processing units (Fig. 3 of Heflinger, Fig. 1 of Staiger and Fig. 4 of Kim).

Regarding claim 24, the combination of Heflinger, Staiger and Kim teaches wherein said free space beam line runs below said units (Fig. 3 of Heflinger, Fig. 1 of Staiger and Fig. 4 of Kim).

Regarding claim 25, the combination of Heflinger, Staiger and Kim teaches wherein said means for sending and said means for receiving comprises a probe (Fig. 3 of Heflinger, Fig. 1 of Staiger and Fig. 4 of Kim).

Regarding claim 26, the combination of Heflinger, Staiger and Kim teaches wherein each of the probes includes an optical/electrical interface (Fig. 3 of Heflinger and Fig. 1 of Staiger).

Regarding claim 27, the combination of Heflinger, Staiger and Kim teaches wherein each of said units includes a transmit and receive units (Fig. 3 of Heflinger and Fig. 1 of Staiger).

Regarding claim 31, the combination of Heflinger, Staiger and Kim teaches the free space beam line is distributed to the shelves via turning mirrors (Fig. 1 of Heflinger , Fig. 1 of Staiger and Fig. 4 of Kim).

Regarding claim 32, the combination of Heflinger, Staiger and Kim teaches wherein the turning mirrors comprise partially silvered mirrors (Fig. 1 of Heflinger and Fig. 1 of Staiger).

Regarding claims 42 and 43, the combination of Heflinger, Staiger and Kim teaches the elongated conduit encloses the entirety of the free space beam line (Fig. 3 of Heflinger and Fig. 1 of Staiger).

6. Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Heflinger (US Patent No. 5,726,786) and Staiger (US Patent No. 6,628,441) in view of Kim (US Patent No. 6,661,940) and further in view of Achour et al (Pub. No.: US 2002/0181036).

Regarding claim 33, the combination of Heflinger, Staiger and Kim differs from claim 33 in that it fails to teach a pilot beam in the visible light spectrum. However, Achour teaches a pilot beam in the visible light spectrum (Figs. 1-3, page 3, paragraphs [0020]-[0023]). Therefore, it would have been obvious to one having skill in the art at the time the invention was made to incorporate the pilot beam in the visible light spectrum

as taught by Achour in the system of the combination of Heflinger, Staiger and Kim. One of ordinary skill in the art would have been motivated to do this since Achour suggests in page 3, paragraphs [0020]-[0023] that using such the pilot beam in the visible light spectrum has advantage of allowing determining the bit error rate for the optical signal and to improve the signal quality.

Response to Arguments

7. Applicant's arguments with respect to claims 1-3, 5-12 and 15-43 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hanh Phan whose telephone number is (571)272-3035.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan, can be reached on (571)272-3022. The fax phone number for the organization where this application or proceeding is assigned is (703)872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-4700.

HANH PHAN
PRIMARY EXAMINER